

# WTF?\*

## Lessons from Ebola

### Arizona Immunization Conference

### April 23, 2015

Bob England, MD, MPH



**Maricopa County**  
**Department of Public Health**

[WeArePublicHealth.org](http://WeArePublicHealth.org) [twitter.com/Maricopahealth](https://twitter.com/Maricopahealth) [facebook.com/MCDPH](https://facebook.com/MCDPH)

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## Lessons from Ebola

### \*What's the Fuss?

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# Questions?



Risk = Hazard + Outrage



# “When the next shoe drops — Ebola crisis communication lessons from October”



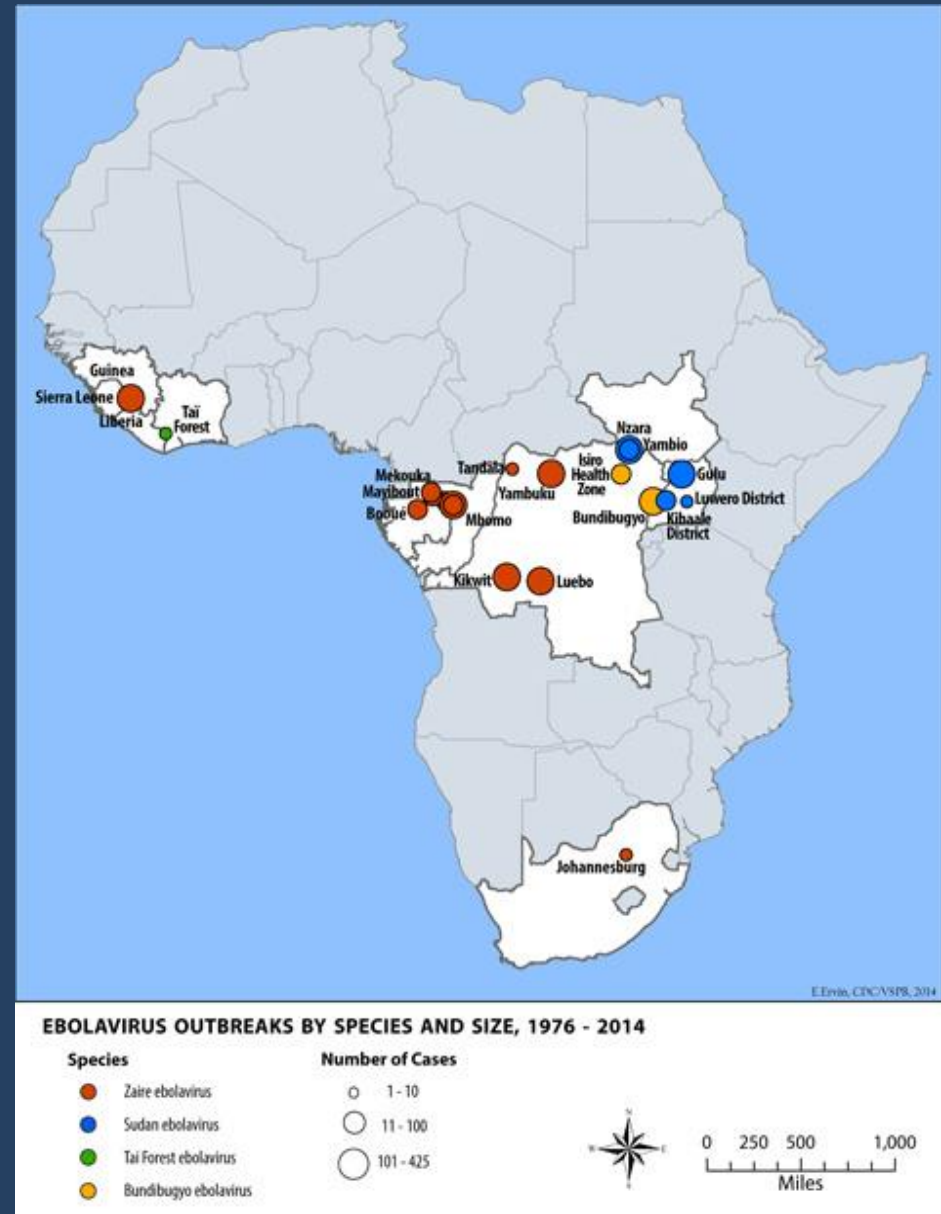
- Don't “over-reassure”
- Acknowledge uncertainty
  - (? “perceived uncertainty”)
- Don't overemphasize “panic”
- Don't ridicule overreactions



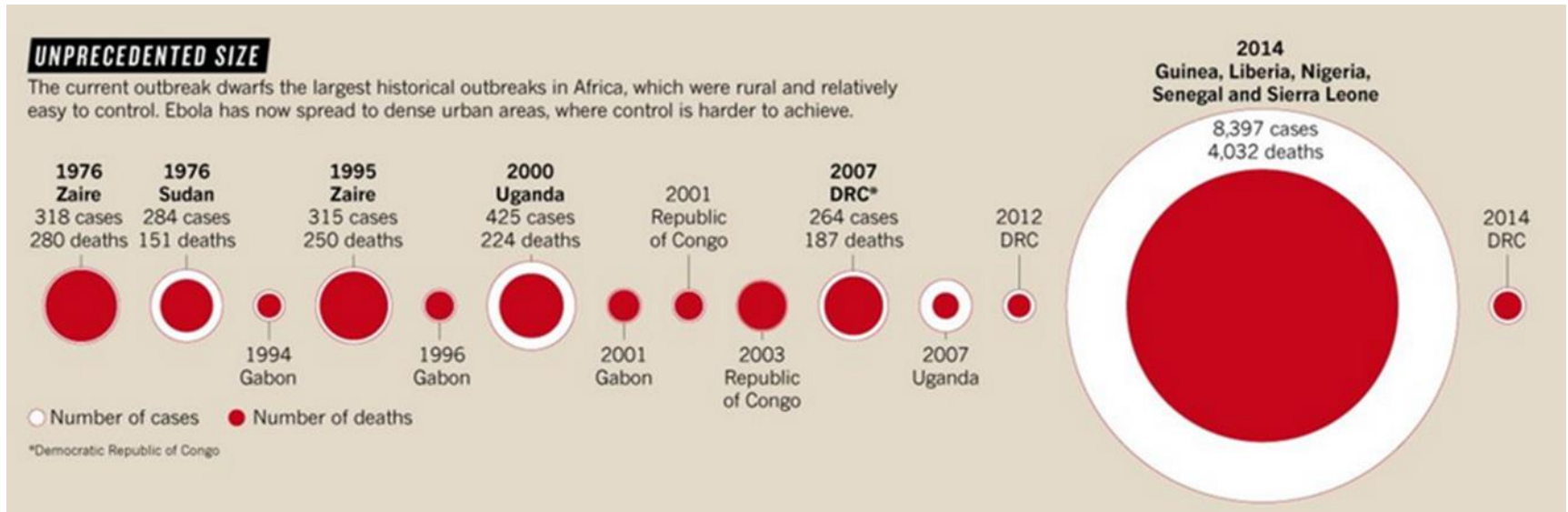


# Ebola

- ❑ First discovered in 1976 near the Ebola River in the Democratic Republic of the Congo
- ❑ Outbreaks occur sporadically in Africa
- ❑ Family of zoonotic RNA viruses
  - ❑ Filoviridae



# Several Outbreaks





# Symptoms

- Signs of Ebola include fever (greater than 38.0°C or 100.4°F) and symptoms such as
  - Severe headache
  - Muscle pain
  - Vomiting
  - Diarrhea
  - Abdominal pain
  - Unexplained hemorrhage
- The incubation period, from exposure to when signs or symptoms appear, is 2 to 21 days, but the average time is 8 to 10 days.
  - **A person infected with Ebola virus is not contagious until symptoms appear**





# Transmission

- Significant exposure to blood or body fluids from an infected person to open skin is required to transmit disease
- Infectiousness is directly related to how much virus is in the body fluid
- Very low levels of virus are in the body at the onset of symptoms aka “dry”
- Infected persons are most contagious when they are “wet.”



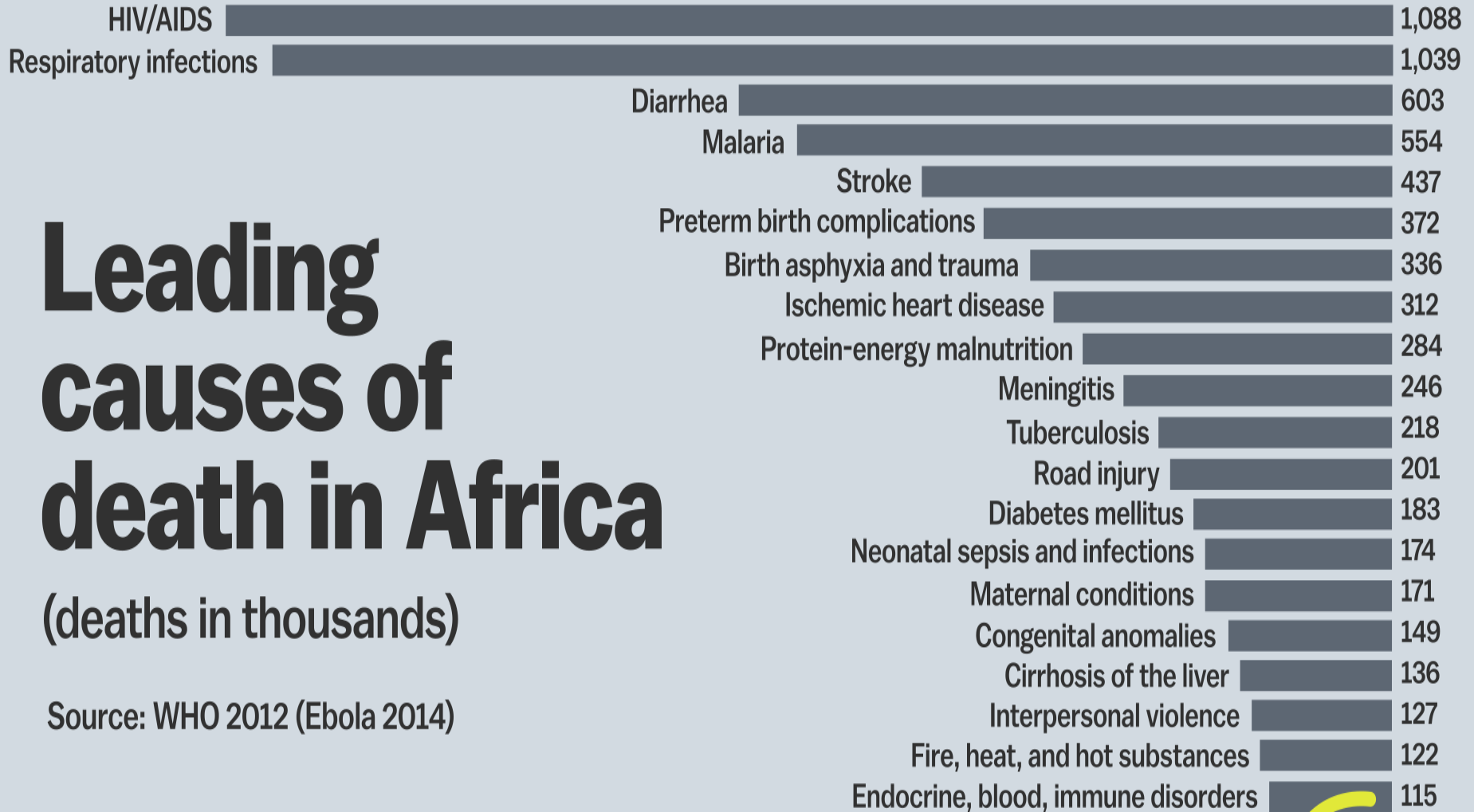




# Leading causes of death in Africa

(deaths in thousands)

Source: WHO 2012 (Ebola 2014)

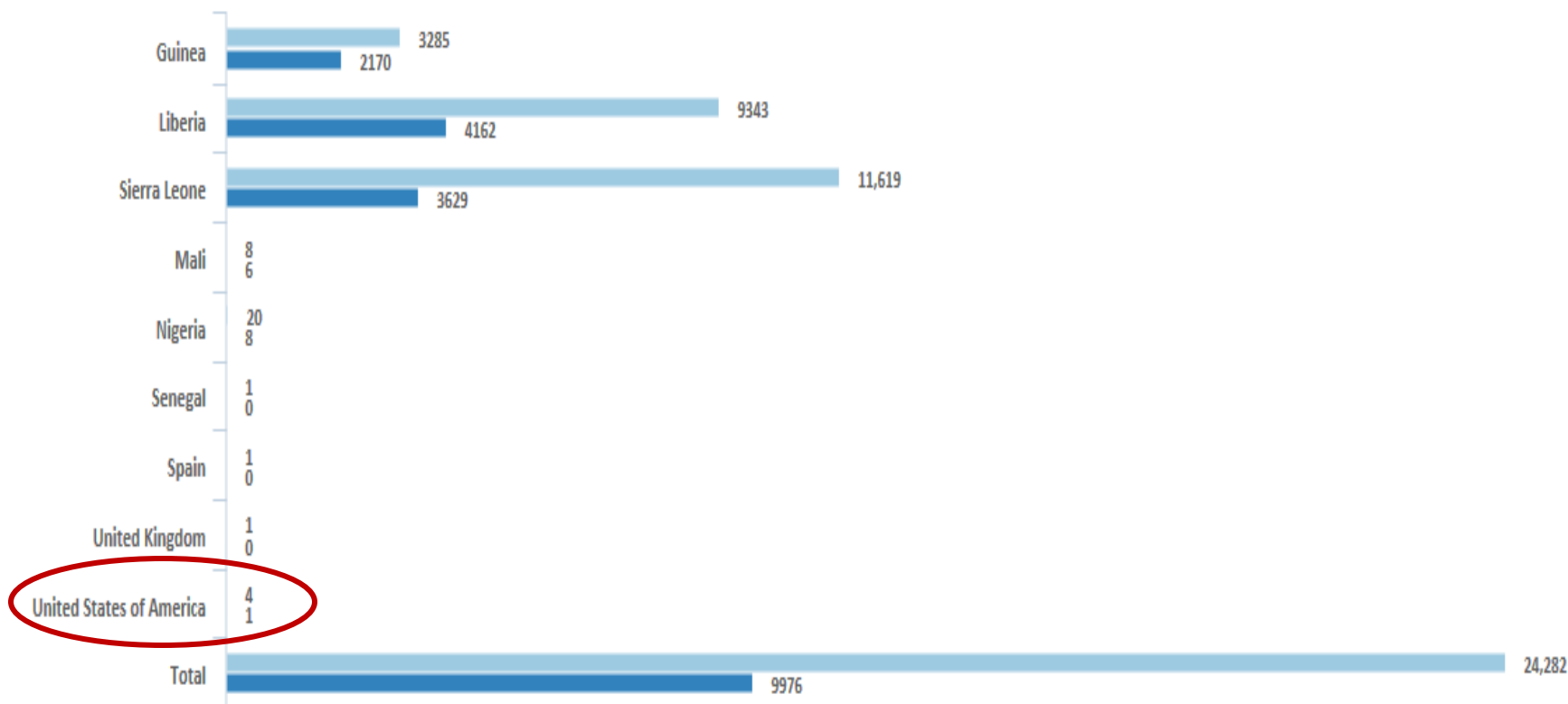


# Ebola Cases and Deaths as of March 11, 2015 – West Africa



Cases and Deaths (data up to 8 March)

Cases Deaths





# Original PPE Guidelines

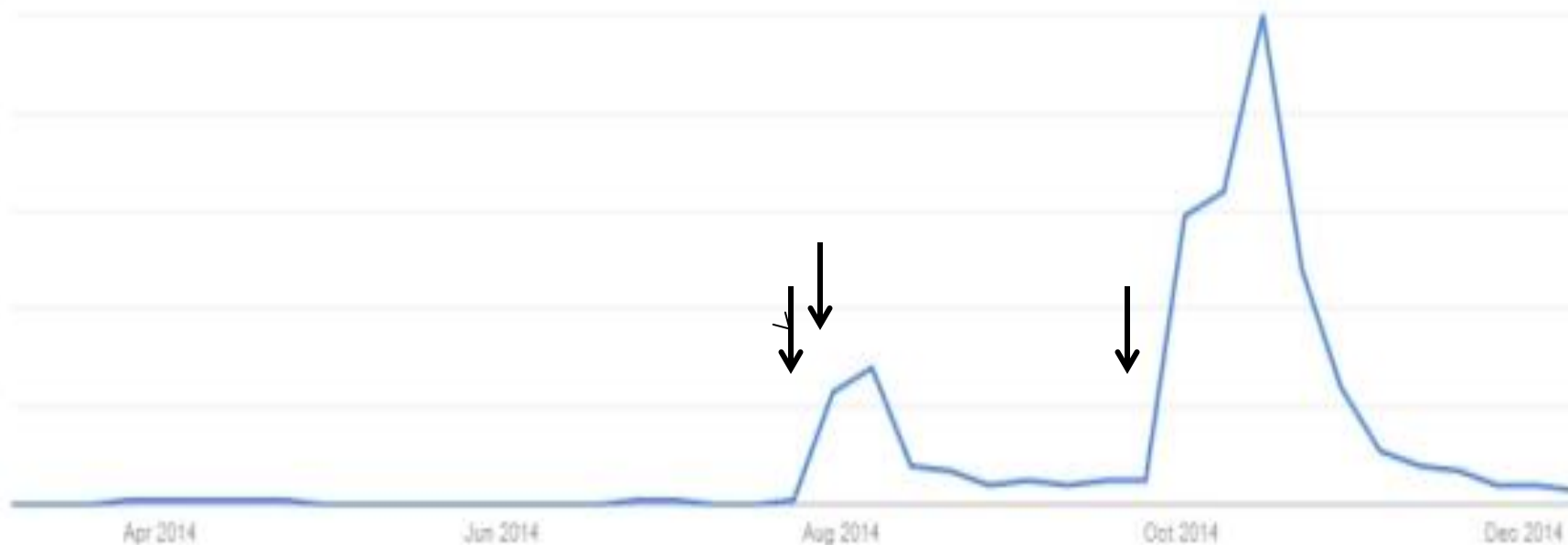
- Healthcare workers who may be exposed to people with Ebola should follow these steps:
  - Wear protective clothing
    - Gloves
    - Gown
    - Eye protection
    - Facemask
  - Practice proper infection control and sterilization measures
  - Isolate patients
  - Avoid direct contact with dead bodies
  - Notify health officials of contact with body fluids

# Google Trends interest data



Interest over time [?](#)

☐ News headlines ☐ Forecast [?](#)





# Don't over-reassure



“Ebola is a virus that is easy to kill by washing your hands. It’s easy to stop by using gloves and barrier precautions... that’s why at the hospital in Texas, they’re taking all of the precautions they need to take to protect healthcare workers...”

# *Perception of absolutism*



- “Don’t worry about Ebola! ... There will probably continue to be an imported case here or there. There may even be an unfortunate HCW or two who get infected. But there is no way there will be sustained community transmission here.” --Dr. Bob
- What people hear:
  - “There won’t be any Ebola here.”

# First phase: early August through late September 2014



- The repatriation of Kent Brantly, MD, and through the diagnosis of Thomas Eric Duncan, the public generally accepted what public health professionals were telling them about Ebola.
- Public health professionals generally found the public's reaction acceptable.

# Dallas



- Public reaction fueled by a sequence of seemingly improbable mistakes:
- Hospital emergency room sent pt home, missing that he recently arrived from Liberia
- Two nurses who treated pt somehow caught the disease from him, despite having worn the recommended PPE and followed protocols
- One of the nurses was permitted to fly to Ohio and back with a low-grade fever

# Actual transmission in Dallas



- Almost 50 persons exposed to the patient after he had symptoms, including his family who shared a bed and living space with him
- 2 nurses who cared for the patient >3 days into his illness became infected
- **No family members** or non-healthcare workers developed Ebola

# CDC Risk Categories for Travelers: Ebola Exposure

Monitoring symptoms and controlling movement of individuals with potential Ebola exposure should be based on an escalating risk level classification.

## High Risk

- Exposure to, or processing of, blood or bodily fluids of a symptomatic patient without appropriate PPE
- Direct contact with a dead body, without appropriate PPE – in an intense transmission country
- Living in same household and providing direct care to a symptomatic patient

## Some Risk

- Direct contact with a symptomatic patient, in an intense transmission country with appropriate PPE
- Close contact with a symptomatic patient for a prolonged period of time without appropriate PPE

## Low Risk (but not zero)

- Travel to an intense transmission country
- Briefly in same room, no contact, with a symptomatic patient
- Skin contact with a low risk patient
- Traveling on the same aircraft as a symptomatic patient

## No Risk

- Contact with an asymptomatic patient, or an asymptomatic individual having contact with a patient
- Travel to an intense transmission country >21 days prior, or one without intense transmission



# Public Health Actions



RISK LEVEL	PUBLIC HEALTH ACTION		
	Monitoring	Restricted Public Activities	Restricted Travel
<b>HIGH risk</b>	Direct Active Monitoring	Yes	Yes
<b>SOME risk</b>	Direct Active Monitoring	Case-by-case assessment	Case-by-case assessment
<b>LOW risk</b>	Active Monitoring for some; Direct Active Monitoring for others	No	No
<b>NO risk</b>	No	No	No

# U.S Hospital PPE Guidance



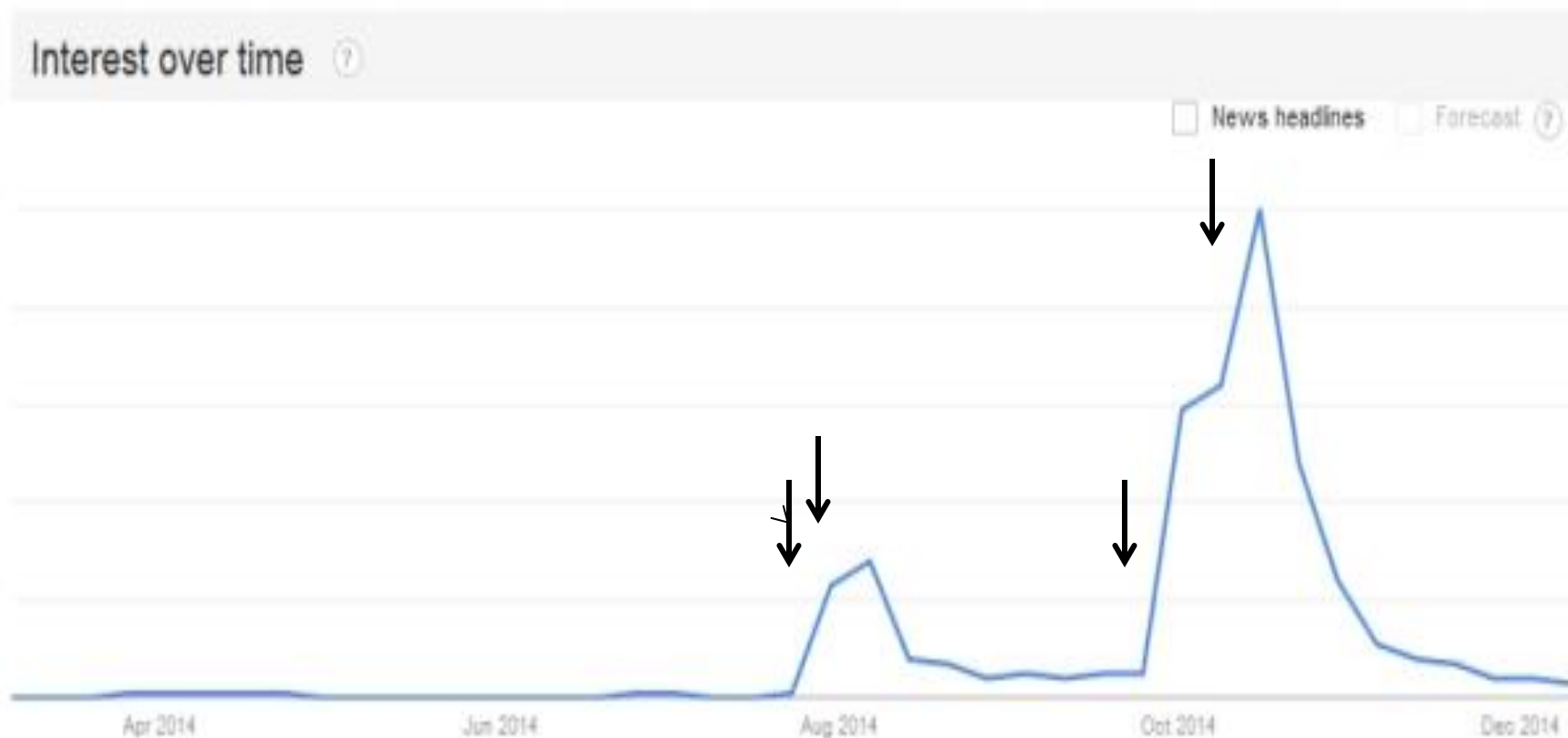
## New guidelines are based on 3 principles:

- ❑ Prior to working with Ebola patients, all healthcare workers involved in the care of Ebola patients must have received **repeated training and have demonstrated competency** in performing all Ebola-related infection control practices and procedures, and specifically in donning/doffing proper PPE
- ❑ While working in PPE, healthcare workers caring for Ebola patients should have **no skin exposed**
- ❑ The overall safe care of Ebola patients in a facility must be **overseen by an onsite manager at all times**, and each step of every **PPE donning/doffing procedure must be supervised by a trained observer** to ensure proper completion of established PPE protocols

# Gee, why would you question authority?



# Google Trends interest data





**‘We’re not comfortable with  
voluntary quarantine’ (10/24/14)**



# Kaci Hickox in “quarantine”





# Kaci Hickox

- Nurse working in Sierra Leone with Doctors Without Borders
- October 24 she was detained at Newark airport and held under quarantine in a medical tent for 3 days, despite displaying no symptoms and testing negative
- Released to her home in Maine where she was to be under home quarantine for the remainder of the 21 day incubation period
- She defied the quarantine order issued on October 30, 2014
- October 31, Judge ruled she was not subject to quarantine or public space limitations, only active monitoring
  - “The State has not met its burden at this time to prove by clear and convincing evidence that limiting Respondent’s movements to the degree requested is ‘necessary to protect other individuals from the dangers of the infection<sub>[.]</sub>’”  
*State of Maine Dep’t of Health v. Kaci Hickox*  
Chief Judge Charles LaVerdiera, Maine District Court







SHOW ME  
YOUR  
PAPERS!



ARPAIO FIGHTS EBOLA

BEN SHAW  
© 12/12/14  
10/14

# Google Trends interest data

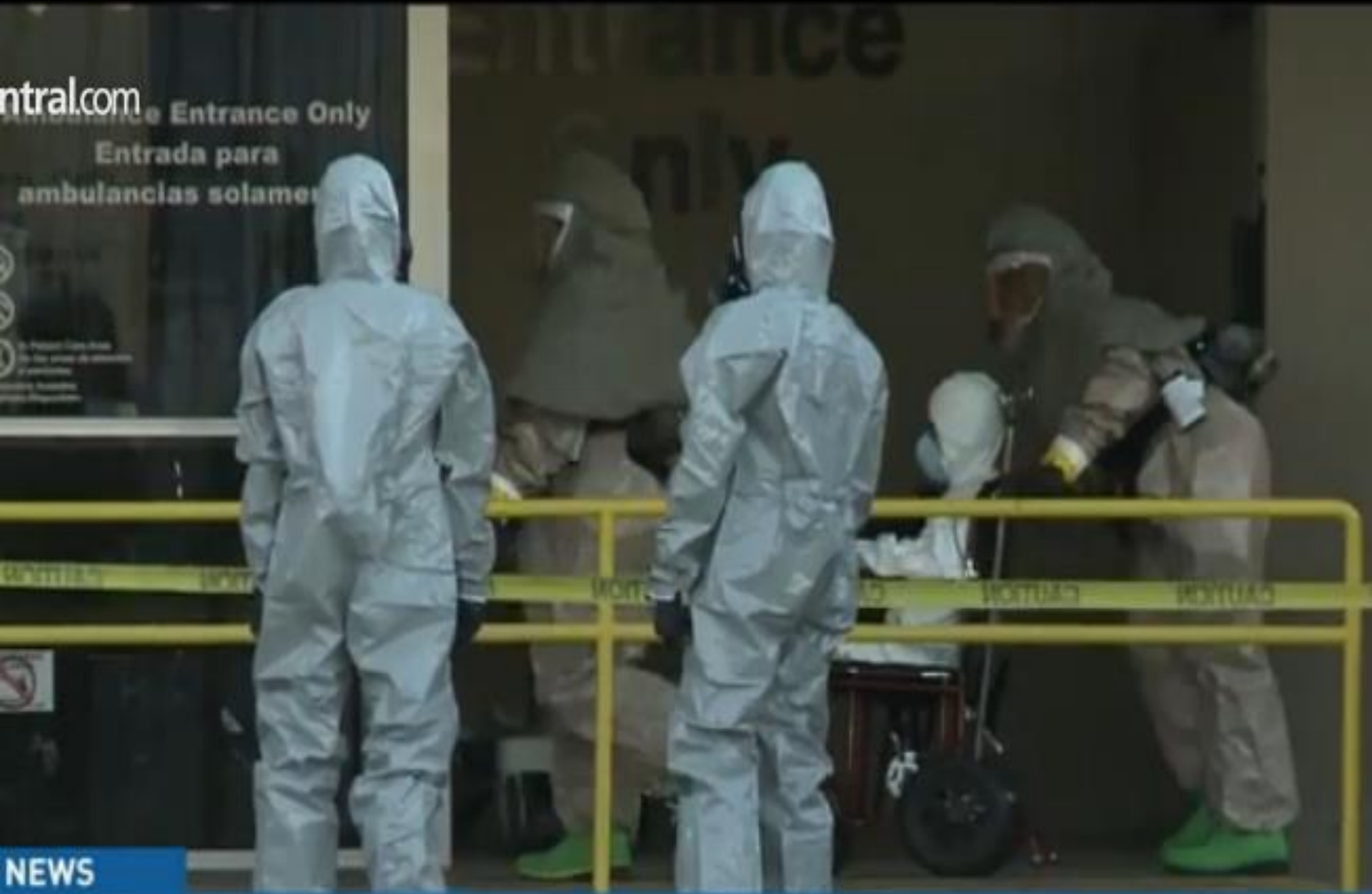


TO PREVENT FURTHER SPREAD, DR BOB  
PROPOSES "FEVER CHECKS" ...

OF CERTAIN POLITICIANS AND REPORTERS ...



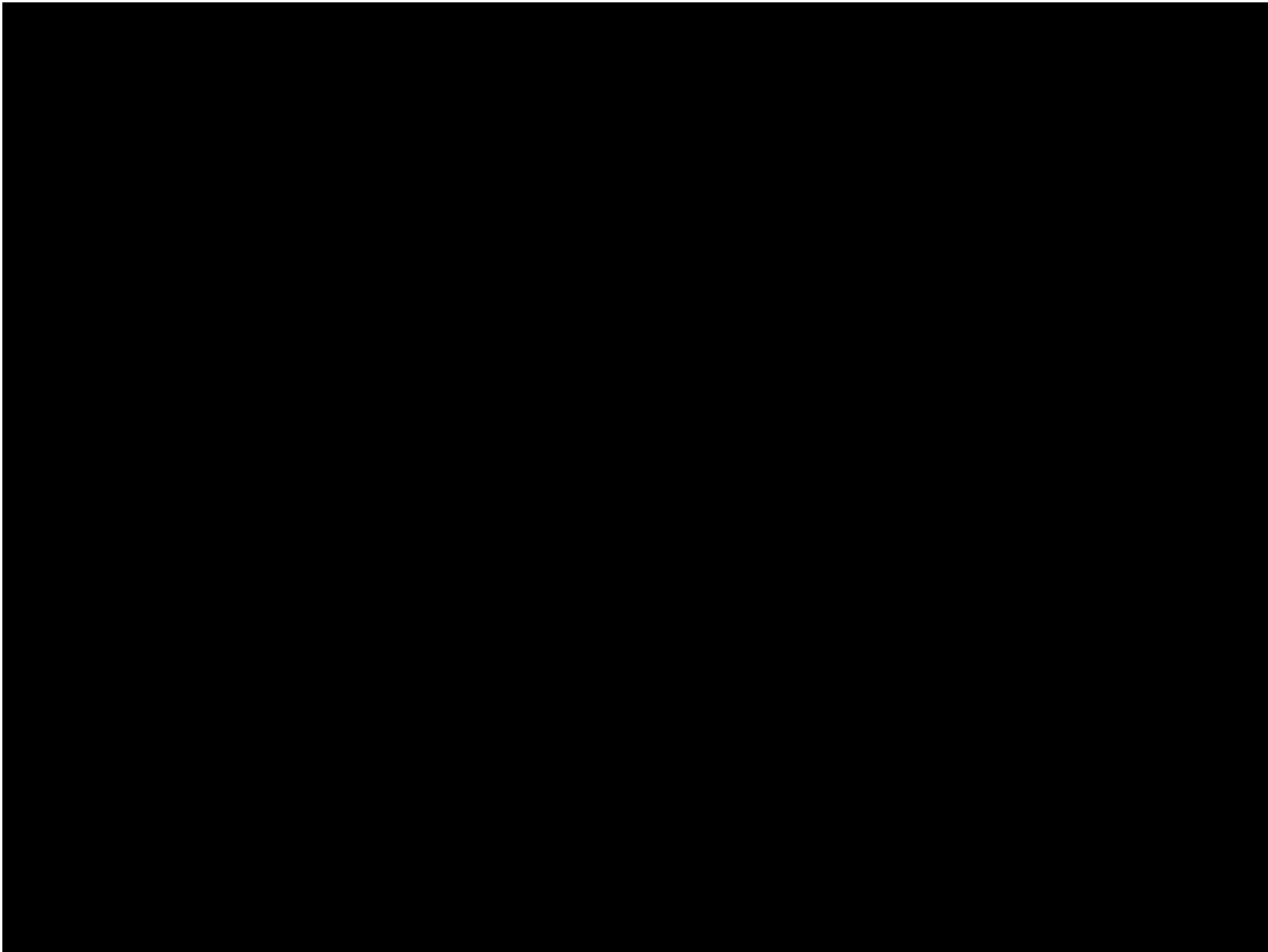
Emergency Entrance Only  
Entrada para  
ambulancias solamente



NEWS

**DOCTORS BELIEVE MAN DOESN'T HAVE EBOLA**





<http://www.azcentral.com/story/news/local/ahwatukee/2014/11/28/phoenix-man-hospitalized-ebola-protocol-sierra-leone/19610877/>

S.org

MIHS



MARICOPA

M

MIHS

HEALTH SYSTEM

Care District



# Reader “comments”



- Are you kidding me? Are they really going to release this man today? ... This is ridiculous. Flu like symptoms? Very low risk? How?? He was in Africa. He called 911 for flu like symptoms?! That's bullcrap, I'm sorry. This country is just lying to us more and more everyday.

[Keely Anne Smith](#) · [Crew Leader](#) at [Culver's](#)

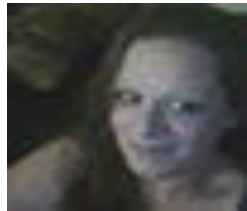


# Reader “comments”



- obviously you know nothing about ebola, key symptoms are vomiting, fever, diarrhea and flu like symptoms, you must have missed also in your ebola training class there is a 21 day incubation period. AND IF HE HAD NO SYMPTOMS...then why the protocol? The fact that medical personal use these protocol says there is at least a chance of him having it...fyi i have a medical degree..i know wtf symptoms are of ebola..and i also know chodes like you know next to nothing about it...so keep trying kid.

[Rachael Reidhead](#) · Top Commenter · [San Tan Valley, Arizona](#)



# Reader “comments”



- ship this low life drug thug idiot right back to africa, they want to go there dont let them come back, pathetic

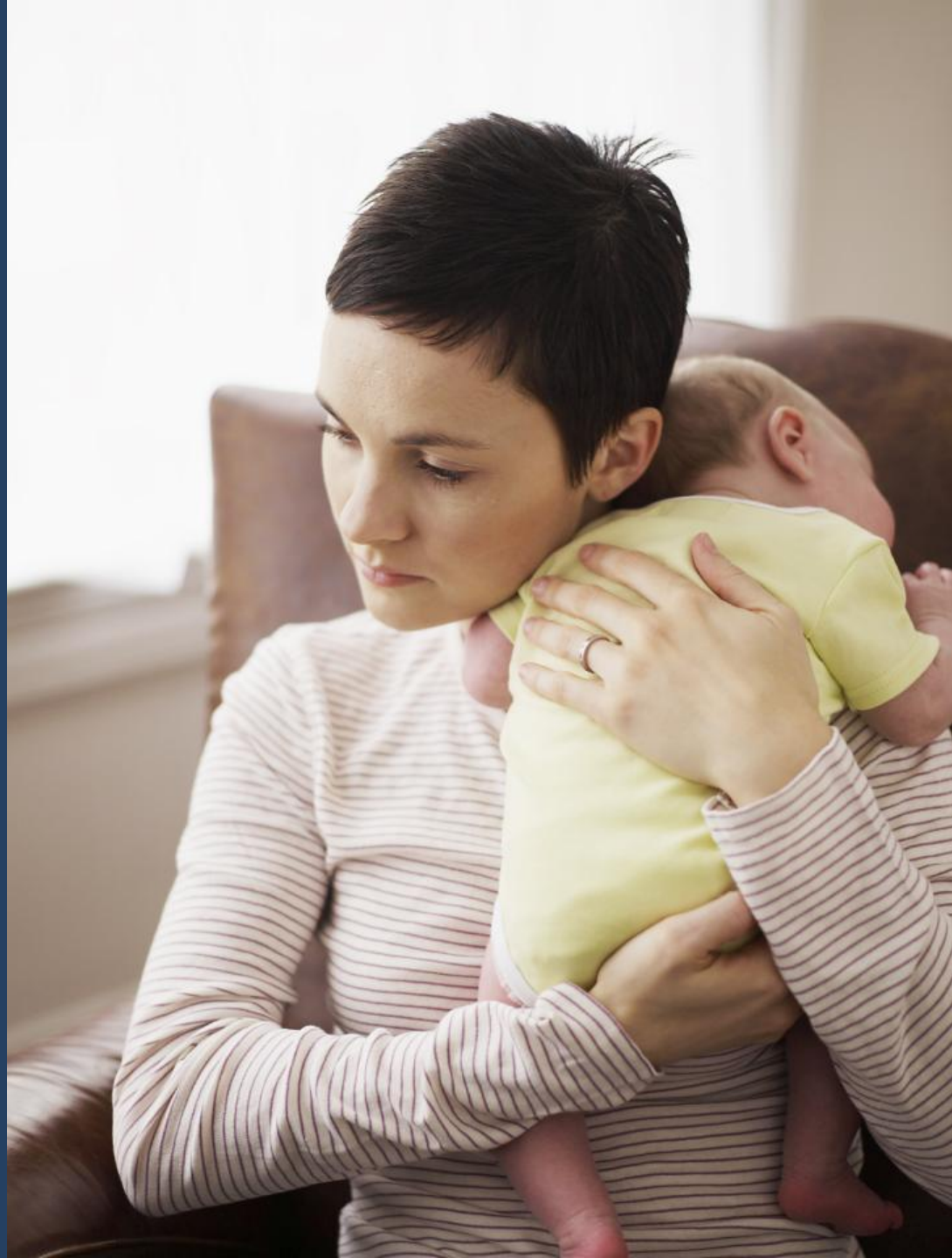
[Dave Fisher](#) · Top Commenter · [Greenfield Senior High School](#)





# What is a “crisis?”

Image from  
[Parenting.com](https://www.parenting.com)





# So apply these principles to vaccines...



- Don't "over-reassure"
- Acknowledge uncertainty
  - (? "perceived uncertainty")
- Don't overemphasize "panic"
- Don't ridicule overreactions

# Don't over-reassure



- We say: “Vaccines are safe.”
- Heard as: “They can *never* harm you.”

# Perception of falsehood



## Vaccine Injury Compensation Trust Fund

- Balance as of March 31, 2014
  - \$3,475,302,680.15
- Activity from October 1, 2013 to March 31, 2014
  - Excise Tax Revenue: \$95,277,401
  - Interest on Investments: \$30,317,260
  - Net Income: \$125,594,662
  - Interest as a Percentage of Net Income: 24%

Source: U.S. Treasury, Bureau of Public Debt (May 6, 2014)

# Acknowledge uncertainty



- We say: “Vaccine safety has been thoroughly studied.”
- Heard as: “There is nothing more to learn.”

(Even non-safety related changes, like adding a booster dose or flu efficacy results, can prompt doubts)

# Acknowledge uncertainty



- “It is really hard to detect extremely rare effects, but that’s because they are *rare*.”
- “The reason we have VAERS is to identify any unknown rare side effects.”
- “Vaccines are better and safer than they’ve ever been, because science constantly evolves.”



Don't overemphasize "panic"



*YOU'RE INVITED!  
CHICKENPOX PARTY!*



# Don't ridicule overreactions





# Don't ridicule overreactions



# Don't ridicule overreactions



- Values attacked → defensive
- Defensive people are more fervent
- The many vaccine-ambivalent people may perceive this as “bullying,” and side with them
  - David Ropeik
- "If people call me selfish and dumb, it doesn't make me more open-minded."
  - Brendan Nyhan

<http://www.nbcnews.com/storyline/measles-outbreak/dont-call-them-dumb-experts-fighting-anti-vaccine-movement-n298956>

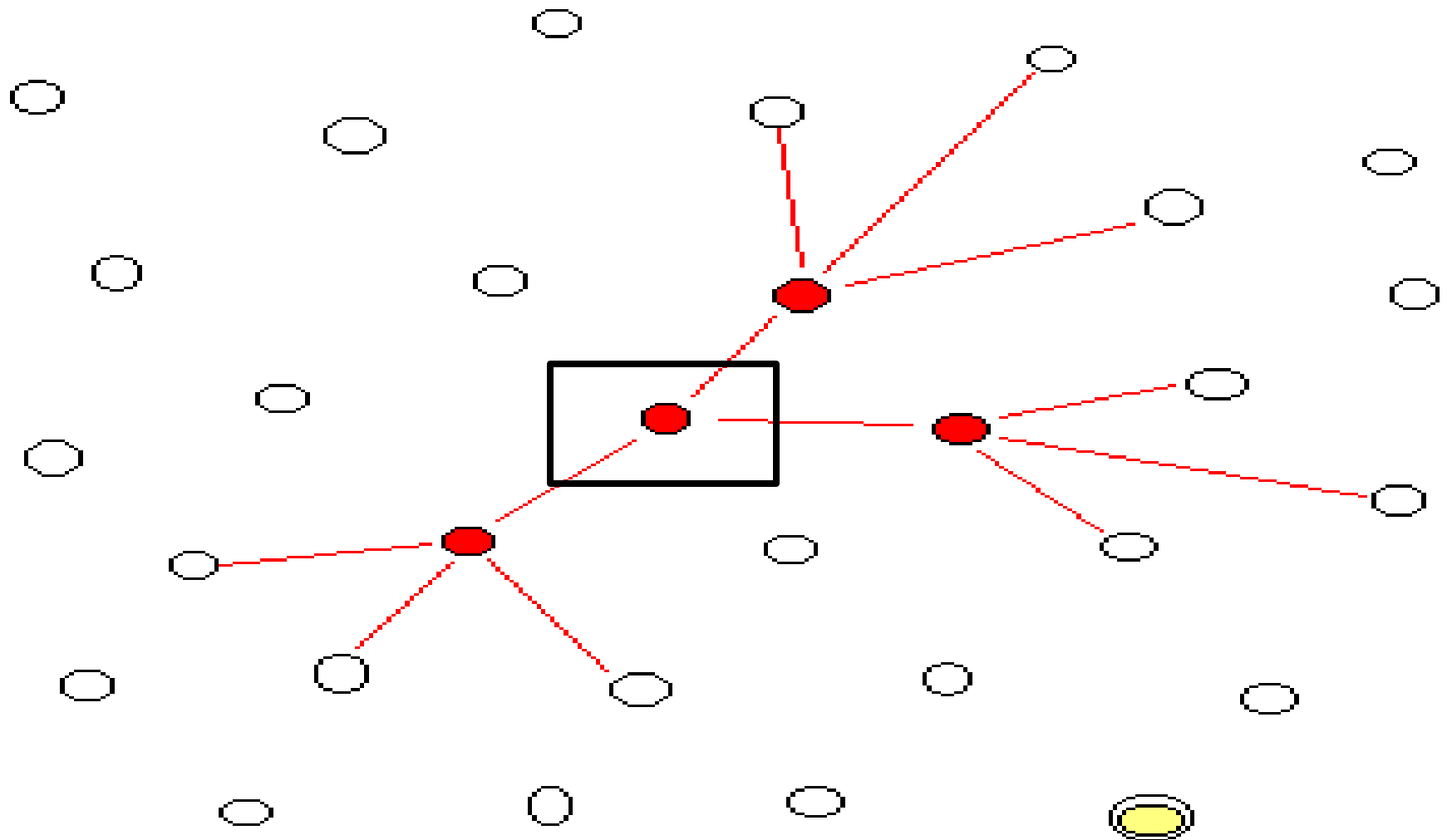


# So now what?



- Hard-core anti-vacciners
  - Can't change them (disconfirmation bias)
  - How much should we ignore vs. counter?
- Solid supporters
  - Mobilizing them (e.g., [VoicesForVaccines.org](http://VoicesForVaccines.org))
- Ambivalent / worried
  - Fear of harming your child (worse than harm befalling them?)
  - How do we not talk down to them, support their parental instincts, while still convincing?

# And guarantee herd immunity?



## Vaccines Safety

There have been many stories in the news about vaccines and sometimes it's hard to tell the facts. We have provided resources for you to print and read to answer a variety of questions that we know parents are concerned about. The CDC has a variety of information about vaccine safety which you can find [here](#). The Children's Hospital of Philadelphia also has put together great parent resources in their vaccine education center answering questions about vaccine safety including a Parents PACK (Possessing, Accessing and Communicating Knowledge about vaccines) which you will find [here](#).



# Addressing Vaccine Hesitant Parents

*Produced by: Immunization for San Diego Kids*

Rady  
Children's  
Hospital  
San Diego

Children's Physicians  
Medical Group

Children's Primary Care  
Medical Group

American Academy of Pediatrics  
Committee on Immunization  
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# Questions?

